

## **Postdoctoral Fellowship**

### **Scope of Research:**

The Hydraulic Engineering Group, Department of Civil Engineering, Stellenbosch University specializes in water resources development, river hydraulics, design of hydraulic structures, river and reservoir sedimentation, and environmental engineering. Ongoing research at the Group calls for an investigation into mitigation measures for sedimentation related problems in rivers, lakes, estuaries and reservoirs. Sedimentation can affect the integrity of hydraulics structures and hinder the surety of water supply. Sustainable solutions should be evaluated by numerical modelling and physical model tests at the Hydraulics Laboratory of Stellenbosch University. The main objective of the research is to develop a National Dam Siltation Management Implementation Plan for South Africa with short and long term measures to solve the water shortage. A key outcome of the research is sustainable catchment mitigation measures to combat high sediment yields due to future land use and climate change.

**Requirement:** PhD (must have graduated within the last five years)

The candidate must possess a relevant doctoral degree PhD (BEng Civil Engineering ECSA approved degree) obtained during the past 5 years.

- Strong background in hydraulic engineering, in particular river, lake, estuary and reservoir sedimentation, and the design of large hydraulic structures
- Previous experience in physical modelling and field work related to sediment
- Familiar with 1D, 2D and 3D hydrodynamic numerical (CFD) models dealing with sediment transport and associated programming
- Familiar with the RUSLE and SHETRAN hydrological models
- Minimum 1 year applicable research/applicable work experience after obtaining the PhD.

Please note that postdoctoral fellows are not appointed as employees and their fellowships are awarded tax free. They are therefore not eligible for employee benefits.

**Commencement of duties for a period of 11 month starting on:** 1 February 2022

**Closing date:** 8 December 2021

**Enquiries:** Send a letter of application, accompanied by a comprehensive curriculum vitae, including a list of publications and the names and contact details of at least two referees, to Prof GR Basson at [grbasson@sun.ac.za](mailto:grbasson@sun.ac.za)

Applicants should request their referees to send confidential reports by closing date direct to the same email address.